

## REMARKS

Applicants respectfully request further examination and reconsideration in view of the instant response. Claims 1-40 remain pending in the case. Claims 1-40 are rejected.

Independent Claims 1, 23 and 32 have been amended. Support for the amendments can be found in the instant application serial no. 10/698,111, among other places, at the last paragraph on page 13, the last paragraph on page 11, lines 6-19 on page 14, and Figures 4 and 5.

## MISCHARACTERIZATIONS OF APPLICANTS' STATEMENTS

The Office Action dated November 11, 2008 mischaracterized Applicants' statements in the response to Office Action dated May 29, 2007. In one example, the Office Action date November 11, 2008 stated in lines 2-5 on page 5, "...it is noted that the features upon which applicant relies (i.e., the class being labeled as people reaching for the items or people not reaching for items but standing still) are not recited in the rejected claim(s). Applicants reiterate, "...since Carrot does not teach or suggest 'processing said plan-view template at a classifier to assign a class to said plan-view template, wherein said classifier is trained to make a decision according to pre-configured parameters determined at least in part based on said class of said plan-view template,' Carrot cannot provide 'Discriminating between arm positions...discriminating between body positions...Discrimination between different types of objects, such as cars, trucks, motorcycles, and bicycles...'. The functional and/or structure recited by Claim 1 in the response was "processing said plan-view template at a classifier to assign a class to said plan-view template, wherein said classifier is trained to make a decision according to pre-configured parameters determined at least in part based on said class of said plan-view template," which results in "Discriminating between arm positions...discriminating between body positions...Discrimination between different types of objects, such as cars, trucks, motorcycles, and bicycles..."

In another example, the Office Action dated November 5, 2007 quotes Applicants as stating "Carrot does not assign a class to slice 167...because Carrot has no motivation to classify approximate shapes of slices or lumps." What Applicants actually stated was "However, note none of Carrot's slice 167, historical images or registered images are assigned a class. Nor would Carrot have any motivation to do so."

Applicants respectfully request that future Office Actions not mischaracterize Applicants' statements.

### 35 U.S.C. §102(b)

In paragraph 7, the Office Action rejected Claims 1, 3, 4, 9, 12, 19-23, 25 and 26 under 35 U.S.C. §102(b) as being anticipated by United States Patent Application Publication 2002/0050924 by Mahbub et al., (hereinafter referred to as "Mahbub"). Applicants have reviewed the cited reference and respectfully submit that the embodiments of the present invention are not anticipated by Mahbub.

MPEP §2131 provides:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). ... "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

### MAHBUB

This section describes Applicants' understanding of what Mahbub teaches. Referring to the abstract, Mahbub teaches an occupant sensor incorporates a 3-D imaging system that acquires a 3-D image of an object. The application that Mahbub describes for his 3-D imaging system involves a safety restraint system that is controlled based on the presence, position and size of the occupant (last sentence of the

abstract). Continuing to refer to the abstract, the image is segmented to remove “unwanted portions” and to identify a region of interest (ROI). The contents thereof are classified based on 3-D features. A two-dimension projection is classified and a presence, size and position of an occupant can be identified. Referring to 0059, examples of “unwanted portions” referred to in the abstract are the side door, the A-pillar, dashboard, floor and objects outside the window. Referring to paragraph 0069-0075, 0088 and 0112, as a part of determining the presence of the occupant, Mahbub teaches classifying items in y, z and z, x planes, such as a seat back.

#### DIFFERENCE BETWEEN MAHBUB AND CLAIM 1

This section describes Applicants’ understanding of the difference between Mahbub and the embodiment recited by Claim 1. Since Mahbub teaches locating items in y, z and z, x planes, Mahbub does not teach “generating a plan-view image based in part on said depth data, wherein said generating includes generating said plan-view image as if said object were viewed from above and wherein other plan-view images based on other orientations of said object are not required,” (emphasis added) as recited by Claim 1.

#### SUMMARY

For at least the reason that Mahbub teaches locating items in y, z and z, x planes, Applicants respectfully submit that the embodiment as recited by Claim 1 is patentable. For similar reasons, independent Claims 23 should also be patentable since Claim 23 also recites “wherein said generating includes generating said plan-view image as if said object were viewed from above and wherein other plan-view images based on other orientations of said object are not required.”

Claims 2-22 depend on independent Claim 1. Claims 24-31 depend on independent Claim 23. These dependent Claims include all of the features of their respective independent claims. Therefore, these dependent claims should be

patentable for at least the reasons that their respective independent claims should be patentable.

35 U.S.C. §103(a)

In paragraph 10 and 11, the Office Action rejected Claims 1, 2, 4-9, 11, 13-15, 18, 23, 24, 26, 28-33, 35-37, 39 and 40 under 35 U.S.C. §103(a) as being unpatentable over United States Patent 6,909,792 by Carrot et al., (hereinafter referred to as “Carrot”) in view of United States Patent 5,491,627 by Zhang, (hereinafter referred to as “Zhang”) and further in view of “First results from the Philips Optical Mammoscope” by Hoogenrand SPIE, vol. 3194, pgs 184-190, 1998 (referred to hereinafter as “Hoogenrand”). Applicants have reviewed the cited references and respectfully submit that the embodiments of the present invention are neither taught nor suggested by Carrot, Zhang, or Hoogenrand, alone or in combination.

“As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Obviousness is a question of law based on underlying factual inquiries” including “[a]scertaining the differences between the claimed invention and the prior art” (MPEP 2141(II)). “In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious” (emphasis in original; MPEP 2141.02(I)). Applicants note that “[t]he prior art reference (or references when combined) need not teach or suggest all the claim limitations, however, Office personnel must explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art” (emphasis added; MPEP 2141(III)).

Applicants respectfully submit that “[i]t is improper to combine references where the references teach away from their combination” (emphasis added; MPEP

2145(X)(D)(2); *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)). Applicants respectfully note that “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (emphasis in original; MPEP 2141.02(VI); *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)). Further, Applicants respectfully submit that, “[w]ith regard to rejections under 35 U.S.C. 103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not” (emphasis added) (MPEP 2142).

More specifically, Applicants respectfully submit that there is no motivation to combine the teachings of Carrot and Zhang because these references teach away from the suggested modification. For example, Applicants understand the combination of Carrot and Zhang to change each other’s principles of operation as will be described in more detail.

## CARROT

This section describes Applicants’ understanding of what Carrot teaches. Referring to the abstract, Carrot teaches displaying changes between historical and later mammographic images to detect temporal differences between the historical and later mammographic images. Since Carrot wants to determine whether a lesion is changing, Carrot requires comparing images of the same breast that are separated by sufficient time that a lesion may change (Col. 1 lines 13-24). Further, it is important that the historical image and the later image be approximately aligned for proper comparison between the two (Col. 1 line 30-33, Col. 7 lines 56 Col. 9 line 27, Col. 12 lines 7-8).

## DIFFERENCE BETWEEN CARROT AND CLAIM 1

This section describes Applicants’ understanding of the difference between Carrot and the embodiment recited by Claim 1. Since Carrot requires comparing images of the same breast in order to determine whether a lesion associated with that

breast is changing, Applicants understand Carrot to teach away from “receiving depth data for at least a pixel of an image of an object...said classifier does not require additional information about said object that was obtained at a different time than said image was obtained...,” as recited by Claim 1.

## ZHANG

This section describes Applicants’ understanding of what Zhang teaches. Zhang teaches using a neural network configuration (Col. 2 lines 23-27) to detect calcifications (Col. 1 lines 19-24) in a binary/digital image of a breast (Col. 2 lines 20-22, Col. 10 lines 53-50).

## DIFFERENCE BETWEEN CARROT AND ZHANG

This section describes Applicants’ understanding of the difference between Carrot and Zhang. Carrot enables a human to perform diagnosis by highlighting temporal differences between images of the same breast taken at different points in time. Zhang provides diagnosis using a neural network. Modifying Carrot to use Zhang’s neural network would change Carrot’s principle of operation. Since modifying Carrot with Zhang would change Carrot’s principle of operation, Carrot cannot be modified with Zhang to arrive at the embodiment recited by Claim 1.

## SUMMARY

For at least the reasons that Carrot requires comparing images of the same breast in order to determine whether a lesion associated with that breast is changing and that Zhang changes Carrot’s principle of operation, Applicants respectfully submit that the combination of Carrot and Zhang does not teach or suggest, alone or in combination, the embodiment recited by Claim 1. Further, since Carrot requires comparing images of the same breast in order to determine whether a lesion associated with that breast is changing, Applicants understand Carrot to teach away from “receiving depth data for at least a pixel of an image of an object...said classifier does not require additional information about said object that was obtained at a different time than said image was obtained...,” as recited by Claim 1.

For similar reasons, independent Claims 23 and 32 should also be patentable since Claim 23 recites "...capturing depth data for at least a pixel of an image of an object...said classifier does not require additional information about said object that was obtained at a different time than said image was obtained...," as recited by Claim 1 and Claim 32 recites, "...depth data for at last one pixel of an image of said object...said classifier does not require additional information about said object that was obtained at a different time than said image was obtained...."

Claims 2-22 depend on independent Claim 1. Claims 24-31 depend on independent Claim 23. Claims 33-40 depend on independent Claim 32. These dependent Claims include all of the features of their respective independent claims. Therefore, these dependent claims should be patentable for at least the reasons that their respective independent claims should be patentable.

### CONCLUSION

Based on the arguments presented above, Applicants respectfully assert that Claims 1-40 overcome the rejections of record and, therefore, Applicants respectfully solicit allowance of these Claims.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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